

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (withdrawn). An asynchronous communications pipeline implemented on a computing system for asynchronously communicating messages between a plurality server devices, said asynchronous communications pipeline comprising:

a pipeline client that resides on each of the said plurality of servers and is adapted to communicate the messages in a store-and-forward manner; and

a pipeline object that is triggered by the pipeline client and retrieves and writes information to a database in accordance with the messages received by the pipeline client.

2 (withdrawn). The asynchronous communications pipeline as recited in claim 1, wherein said pipeline object is adapted to write information to a logging database.

3 (withdrawn). The asynchronous communications pipeline as recited in claim 1, wherein said pipeline object is adapted to update information to the pipeline client.

4 (withdrawn). The asynchronous communications pipeline as recited in claim 3, wherein the pipeline client resides on a download server and the download server comprises a cache update agent that invalidates a memory cache in response to the receipt of the update information.

5 (withdrawn). The asynchronous communications pipeline as recited in claim 1, wherein said pipeline object comprises a COM object.

6 (withdrawn). A method of supporting electronic commerce, said method comprising the acts of:

receiving, at a first server, a request to process a transaction;

processing said transaction;

generating a message comprising information about said transaction;

transmitting said message to a message queuing facility; and

logging said message in a database.

7 (withdrawn). The method of claim 6, wherein said database resides on a second server different from said first server.

8 (withdrawn). The method of claim 6, wherein said message queuing facility comprises MSMQ.

9 (withdrawn). The method of claim 6, wherein said transaction comprises providing an electronic content item to a computing device.

10 (withdrawn). The method of claim 9, wherein said information identifies said electronic content item.

11 (withdrawn). The method of claim 6, further comprising converting said message into a database format prior to logging said message in said database.

12 (withdrawn). The method of claim 11, wherein said message queuing facility invokes a COM object which converts said message into a database format and writes said message into said database.

13 (withdrawn). A computer-readable medium having computer-executable instructions to perform the method of claim 6.

14 (original). A system for providing a content item, said system comprising:
a plurality of download servers, wherein each download server receives a request for said content item, each of said download servers having:
a cache which stores said content item; and
a first object which receives a first message to invalidate said content item in said cache and which invalidates said content item in said cache in response to receipt of said first message;
and
a fulfillment server having:

a content store which stores said content item; and
a first database which stores information relating to said content item; and
a second object which receives a notification that said information in said first database has been updated or deleted, and which generates, in response to said notification, said first message for dispatch to said plurality of download servers.

15 (original). The system of claim 14, wherein said fulfillment server further includes a second database which stores a log of events occurring on said plurality of download servers, wherein each of said plurality of download servers generates a second message for dispatch to said fulfillment server in response to said events, and wherein said second object receives said second message and logs said events in said second database.

16 (original). The system of claim 14, wherein said events include the downloading of said content item to a purchaser of said content item.

17 (original). The system of claim 14, wherein said content item is sold by a retailer for download by one of said plurality of download servers, and wherein said first database further stores information relating to said retailer.

18 (original). The system of claim 17, wherein said plurality of download servers is hosted by said retailer.

19 (original). The system of claim 14, wherein said download servers provide said content item for durable storage on one or more computing devices associated with consumers of said content item.

20 (original). The system of claim 14, wherein each of said first and second object is an instance of an MSMQ independent client.

21 (original). A method of using a plurality of servers to distribute a content item, said method comprising the acts of:

receiving, at a first of said plurality of servers from a first computing device, a request for said content item, said first server having a first cache;

determining that no valid copy of said content item exists in said first cache;

obtaining said content item at said first server from a content store;

providing said content item to said first computing device;

storing said content item in said first cache;

receiving, at a fulfillment server, a change to an attribute of said content item;

said fulfillment server sending a notification to said plurality of servers in response to said change; and

said first server invalidating said copy of said content item in said first cache in response to said notification.

22 (original). The method of claim 21, wherein said act of sending a notification comprises using a store-and-forward messaging facility.

23 (original). The method of claim 21, wherein said change comprises a change in a physical location of said content item.

24 (original). The method of claim 21, wherein said change comprises a change in a level of protection to be applied to said content item.

25 (original). The method of claim 21, wherein said content item comprises:
encrypted content; and
a first cryptographic key which decrypts said encrypted content.

26 (original). The method of claim 25, wherein said content item further comprises meta-data, wherein said first cryptographic key is sealed with said meta-data.

27 (original). The method of claim 25, wherein said encrypted content is stored in said cache separately from said first cryptographic key.

28 (original). The method of claim 21, wherein said change comprises a change in the meta-data of said content item.

29 (original). A computer-readable medium having computer-executable instructions to perform the method of claim 21.

30 (withdrawn). A server arrangement comprising:

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a plurality of front-end server devices connected to a network, said front-end server devices performing a service for remote computing devices connected to said network, each of said front-end server devices being equipped with an asynchronous messaging object; and

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a back-end server device which stores information relating to the service performable by said front-end server devices, and which transmits a message relating to said information to said front-end server devices via each of said front-end server device's asynchronous messaging object.

31 (withdrawn). The server arrangement of claim 30, wherein said back-end server transmits said message in response to a change in the stored information.

32 (withdrawn). The server arrangement of claim 30, wherein said service comprises providing a content item to said remote computing devices, and wherein said information comprises the physical location of said content item.

33 (withdrawn). The server arrangement of claim 32, wherein said stored information comprises a physical location of said content item, wherein said back-end server transmits said message in response to a change in said physical location, wherein at least one of said front-end servers stores said content item in a cache located on said front-end server, and wherein said message comprises an instruction to invalidate said cache.

34 (withdrawn). The server arrangement of claim 32, wherein said stored information comprises meta-data related to said content item, wherein said back-end server transmits said message in response to a change in said meta-data, wherein at least one of said front-end servers stores said content item's meta-data in a cache located on said front-end server, and wherein said message comprises an instruction to invalidate said cache.

35 (withdrawn). The server arrangement of claim 30, wherein said front-end server devices perform said service on behalf of a first party upon receipt of an encrypted instruction from said first party, and wherein said information comprises a shared secret used to decrypt said instruction.

36 (withdrawn). The server arrangement of claim 35, wherein said shared secret comprises a symmetric cryptographic key.
